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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/521,858

Filing Date: January 21, 2005

Appellant(s): KAMPERMAN, FRANCISCUS LUCAS ANTONIUS

Kevin C. Ecker (Reg. No. 43600)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 22 July 2009 appealing from the Office action mailed 22 January 2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

This appeal involves claims 1, 3, 5-11 and 13.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is incorrect.

While no amendments after final have been filed, Appellant's state a response to the Non-Final Office Action dated October 1, 2008 was filed on December 31, 2009. This date is incorrect and should be December 31, 2008.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,493,825	BLUMENAU ET AL	12-2002
WO 02/35036	LUNDKVIST	05-2002
WO 01/93434	ROFHEART ET AL	12-2001

(9) Grounds of Rejection

The following grounds of rejection are applicable to the appealed claims:

Claims 1, 5-11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lundkvist (WO 02/035036 A1), hereinafter Lundkvist, in view of Blumenau et al (U.S. Pat 6493825 B1), hereinafter Blumenau.

These rejections were set forth in the Final Office action dated 22 January 2009.

Claims 1, 5-11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lundkvist (WO 02/035036 A1), hereinafter referred to as Lundkvist, in view of Blumenau et al (U.S. Pat 6493825 B1), hereinafter referred to as Blumenau.

Claims 1 and 11:

Lundkvist teaches a method for a first communication device [Fig 1, elt 1: vehicle] to performing authenticated distance measurement between said first communication device and a second communication device [Fig 1, elt 2: portable unit] (Abstract, lines 9-11), wherein the first and the second communication device share a common secret (Abstract: lines 9-13) and:

wherein the authenticated distance measurement comprises:

(means for) transmitting a first signal [Fig 3: first signal X] from the first communication device [Fig 1, elt 1: vehicle] to the second communication device [Fig 1, elt 2: portable unit] at

a first time t1 (Fig 2, elt "MESSAGE X IS DETERMINED AND X IS SENT" and elt: "←X→;" page 8, lines 11-17), said second communication device being adapted for receiving said first signal (Fig 2, elt "X IS RECEIVED AND DECRYPTED;" page 8, line 19), generating a second signal [Fig 2, elt "F(X) IS DETERMINED AND Y1 IS SENT" and elt: "←Y1→;" page 8, lines 20-21] by modifying the received first signal according to the common secret, and transmitting the second signal to the first communication device [Fig 2, elts: "X IS RECEIVED AND DECRYPTED," "F(X) IS DETERMINED AND Y1 IS SENT" and "←Y1→"] (page 8, lines 19-22); (means for) receiving the second signal at a second time t2 (Fig 2, elt "Y1 IS RECEIVED, DECRYPTED, F(X) AND T1 ARE CHECKED"; page 8, lines 23-24); and (means for) determining the distance between the first and the second communication device according to a time difference between t1 and t2 (Fig 2, elt T1; page 3, lines 22-25; page 8, lines 24-28).

Lundkvist does not expressly disclose (means for) generating by the first communication device a third signal by modifying the first signal according to the common secret; (means for) comparing the third signal with the received second signal to check if the second signal has been modified according to the common secret.

Blumenau teaches: (means for) generating by the first communication device [Fig 33, elt "STORAGE SUBSYSTEM PORT ADAPTER"] a third signal [Fig 33, elt 385] by modifying the first signal [Fig 33, elt 383] according to the common secret (col 37, lines 55-58); (means for) comparing the third signal [Fig 33, elt 385] with the received second signal [Fig 33, elts 387 & 388] to check if the second signal has been modified according to the common secret [Fig 33, elt 389] (col 37, line 59 – col 38, line 14).

At the time Appellant's invention was made, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Lundkvist with the teachings of Blumenau, for the purpose of providing expedient authentication as the authentication processes taught by Blumenau does not require decryption (see col 37, lines 60-62). Likewise, one skilled in the art would have been motivated to substitute the authentication scheme of Lundkvist with the authentication scheme of Blumenau for the purpose of verifying the two communicating parties have common encryption keys and common encryption algorithms without exposing the encryption key and encryption algorithm.

Claim 5:

The combination of Lundkvist and Blumenau teaches the first signal [Lundkvist: Fig 2, elt X] and the common secret are bit words and where the second signal [Lundkvist: Fig 2, elt Y1] comprises information being generated by performing an XOR between the bit words (Lundkvist: page 8, lines 1-2). The Examiner holds the Lundkvist teaches symmetric key cryptography between the two exchanging parties. As such, Lundkvist clearly anticipates the XOR cipher.

Claim 6:

The combination of Lundkvist and Blumenau teaches the common secret has been shared before performing the distance measurement, the sharing comprises, performing an authentication check from the first communication device on the second communication device, by checking whether said second communication device is compliant with a set of predefined compliance rules (Lundkvist: page 8, lines 19-28; in particular, lines 27-28 where

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the lock is unlocked if $E_SVAR = f(O_RND)$ where E_SVAR is a specific function of the first parties information and O_RND is a nonce generated by the verifier; see also the second embodiment: page 9, lines 1-13), if the second communication device is compliant, sharing said common secret by transmitting said secret to the second communication device (Lundkvist: page 8, lines 27-28) (Blumenau: Fig 33; col 37, line 61 – col 38, line 14).

Claim 7:

The combination of Lundkvist and Blumenau teaches the authentication check further comprises checking if the identification of the second device [E_ID] is compliant with an expected identification (page 9, lines 1-13; particularly “*control unit 70 creates namely a message that consists of identity information E_ID that is unique to the unit 2 and a random number E_RND* ”).

Claim 8:

Lundkvist teaches a method of determining whether data stored on a first communication device [Fig 1, elt 1: vehicle] are to be accessed by a second communication device [Fig 1, elt 2: portable unit] (Abstract, lines 9-11), the method comprises performing an authenticated distance measurement between third communication device [Fig 1, elt 7] and the second communication device [Fig 1, elt 2: portable unit] (Abstract, lines 9-11; page 7, lines 7-9), wherein the third and the second communication device share a common secret (Abstract: lines 9-13), and

wherein the authenticated distance measurement comprises: transmitting a first signal [Fig 3: first signal X] from the third communication device [Fig 1, elt 7] to the second communication device [Fig 1, elt 2: portable unit] at a first time t_1 (Fig 2, elt “MESSAGE X IS

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DETERMINED AND X IS SENT” and elt: “ $\leftarrow X \rightarrow$,” page 8, lines 11-17), said second communication device being adapted for receiving said first signal (Fig 2, elt “X IS RECEIVED AND DECRYPTED,” page 8, line 19), generating a second signal [Fig 2, elt “F(X) IS DETERMINED AND Y1 IS SENT” and elt: “ $\leftarrow Y1 \rightarrow$,” page 8, lines 20-21] by modifying the received first signal according to the common secret, and transmitting the second signal to the third device [Fig 1, elt 7; Fig 2, elts: “X IS RECEIVED AND DECRYPTED,” “F(X) IS DETERMINED AND Y1 IS SENT” and “ $\leftarrow Y1 \rightarrow$ ”] (page 8, lines 19-22);

receiving the second signal at a second time t2 (Fig 2, elt “Y1 IS RECEIVED, DECRYPTED, F(X) AND T1 ARE CHECKED”; page 8, lines 23-24); determining the distance between the third and the second communication device according to a time difference between t1 and t2 (Abstract: lines 9-13; page 3, lines 17-20; page 4, lines 12-13); and checking whether said measured distance is within a predefined distance interval (page 3, lines 29-30).

Lundkvist does not expressly disclose generating by the third communication device a third signal by modifying the first signal according to the common secret; comparing the third signal with the received second signal to check if the second signal has been modified according to the common secret.

However, Blumenau teaches: generating by the third communication device [Fig 33, elt “STORAGE SUBSYSTEM PORT ADAPTER”] a third signal [Fig 33, elt 385] by modifying the first signal [Fig 33, elt 383] according to the common secret (col 37, lines 55-58); comparing the third signal [Fig 33, elt 385] with the received second signal [Fig 33, elts 387 & 388] to

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check if the second signal has been modified according to the common secret [Fig 33, elt 389] (col 37, line 59 – col 38, line 14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Lundkvist with the teachings of Blumenau, for the purpose of providing expedient authentication as the authentication processes taught by Blumenau does not require decryption (see col 37, lines 60-62). Likewise, one skilled in the art would have been motivated to substitute the authentication scheme of Lundkvist with the authentication scheme of Blumenau for the purpose of verifying the two communicating parties have common encryption keys and common encryption algorithms without exposing the encryption key and encryption algorithm.

Claim 9:

The combination of Lundkvist and Blumenau teaches the data stored on the first device are sent to the second device (Lundkvist: Fig 2, elt “MESSAGE X IS DETERMINED AND X IS SENT”) if it is determined that the data stored on the first device are to be accessed by the second device (Lundkvist: Fig 2, elt “TRIPPING DEVICE IS ACTUATED;” page 5, lines 17-19).

Claim 10:

The combination of Lundkvist and Blumenau teaches the first communication device [Lundkvist: Fig 1, elt 1] comprises the third communication device [Lundkvist: Fig 1, elt 7] (page 7, lines 7-10).

Claim 13:

The combination of Lundkvist and Blumenau teaches means for playing back multimedia content based on a result of the authenticated distance measurement (Blumenau: col 5, lines 22-25 & lines 37-38; col 7, lines 47-50).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lundkvist (WO 02/035036 A1), hereinafter referred to as Lundkvist, in view of Blumenau et al (U.S. Pat 6493825 B1), hereinafter referred to as Blumenau, in further view of Rofheart et al (WO 01/93434 A2), hereinafter referred to as Rofheart.

Claim 3:

The combination of Lundkvist and Blumenau teaches all the limitations of claim 1 as previously discussed. However, Rofheart teaches the first signal is a spread spectrum signal (page 15, line 31 – page 16, line 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Lundkvist and Blumenau to utilize spread spectrum signals, as taught by Rofheart, for the purpose of providing increased resistance to natural & artificial interference and to prevent signal detection (page 16, lines 8-13).

(10) Response to Argument

The Examiner recites the various points raised by the appellant and addresses replies individually:

As per appellant's argument:

Regarding the rejection of claim 1 under 103(a) in view of Lundkvist (WO 02/035036 A1), hereinafter Lundkvist, and Blumenau et al (U.S. Pat 6493825 B1), hereinafter Blumenau,

Appellant argues “according to the identities of the communication devices as interpreted by the Examiner, the arguments made by the Examiner are inconsistent. (A1) As detailed below the Examiner points to the vehicle in Lundkvist as the first communication device and the SUBSYSTEM PORT ADAPTER in Blumenau as sending the third signal, however the claims recite that the third signal comes from the first device. (A2) However, the STORAGE SUBSYSTEM PORT ADAPTER in Blumenau can not be identified as the first communication device sending the third signal.”

In response to argument (A1), the Examiner in earlier and instant correspondence, asserted the vehicle of Lundkvist as the first device. The Examiner further asserts the SUBSYSTEM PORT ADAPTER in Blumenau as generating both the first signal and third signal. The transmission of the first signal is demonstrated in Figure 33 of Blumenau wherein elements 383 and 384 respectively state “SEND RANDOM NUMBER” and “RECEIVE RANDOM NUMBER.”

As per Appellant’s argument that the SUBSYSTEM PORT ADAPTER in Blumenau as “sending” the third signal, the claim language does not recite “sending” a third signal but “generating by the first communication device a third signal by modifying the first signal ...” Appellant’s arguments are inconsistent with the claim language.

As per Appellant’s argument that the third signal “comes from” the first device, the claim language states “generating by the first communication device a third signal by modifying the first signal.” The Examiner previously and instantly maintains Figure 33 of Blumenau teaches the first communication device, wherein the first communication device of Appellant corresponds to Blumenau’s “STORAGE SUBSYSTEM PORT ADAPTER”. The first

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communication device of Blumenau generates the third signal in Figure 33, element 385 wherein Blumenau uses the first signal, e.g. the random number, and modifies the first signal, e.g. encrypt the random number, according to the common secret, e.g. encrypting using the host controller's key.

In response to argument (A2), the Examiner asserts Appellant has mistaken how Blumenau is applied to Appellant's claim. The Examiner elaborates:

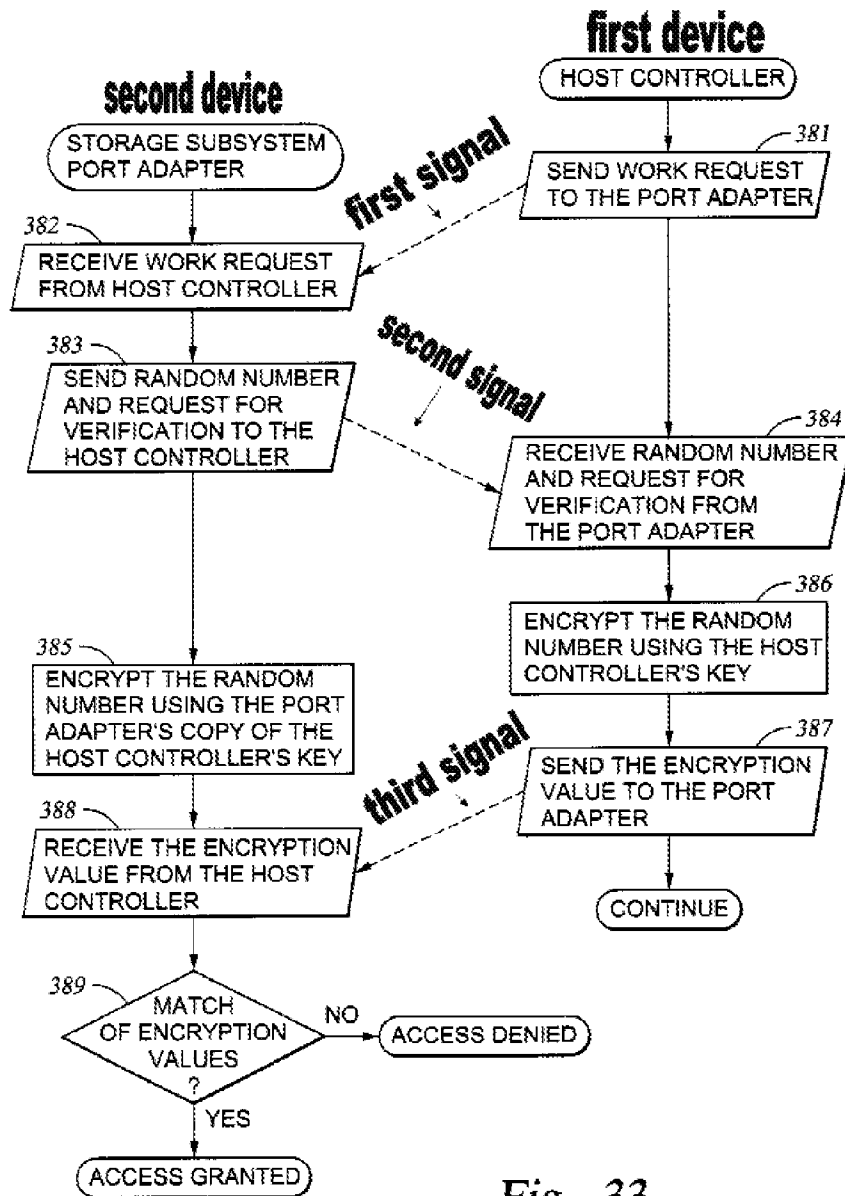


Fig. 33

Shown above is Appellant's interpretation of Figure 33 of Blumenau as stated in earlier correspondence and the Brief; this figure is hereinafter referred to as the first exhibit.

However, the first exhibit is an incorrect interpretation of how Blumenau is applied as teaching Appellant's first signal, second signal and third signal.

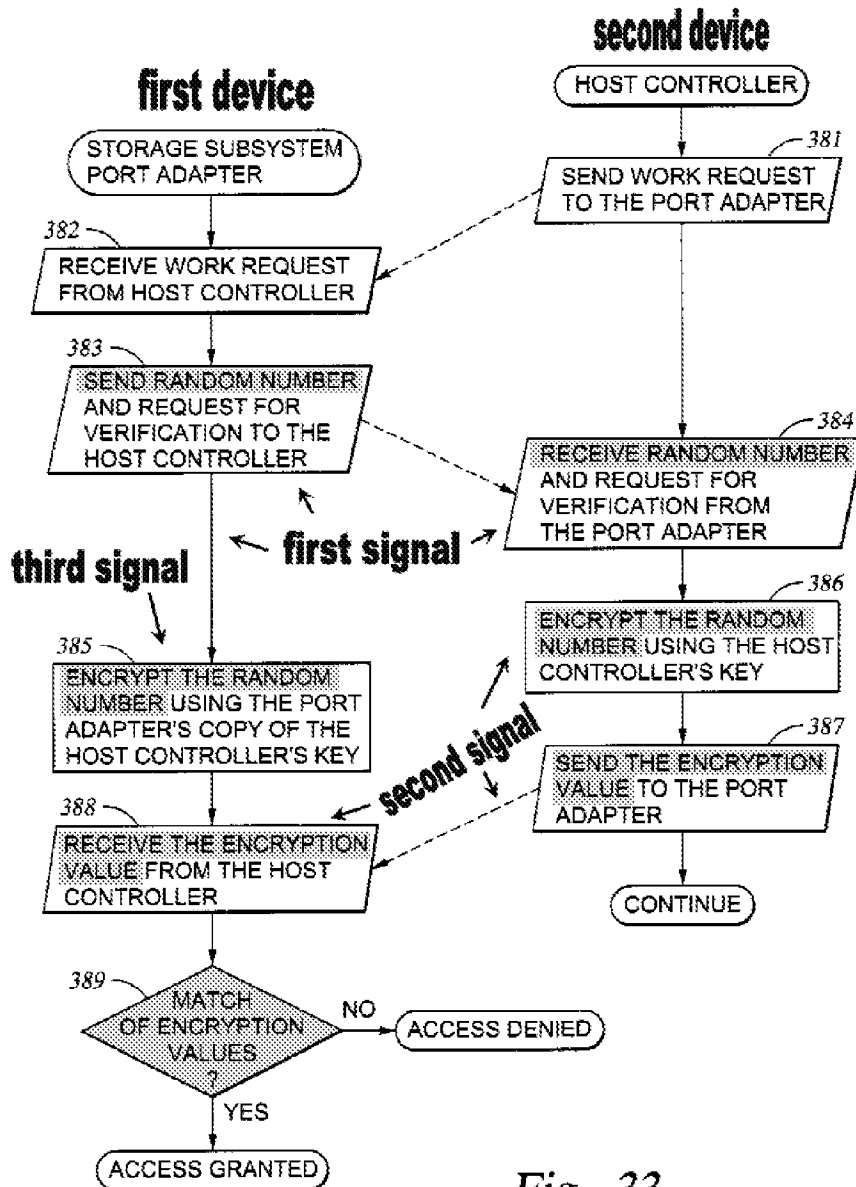


Fig. 33

Shown prior to this paragraph, is the Examiner's use of Blumenau, hereinafter referred to as the second exhibit. This interpretation is consistent with prior correspondence and with the first communication device, e.g. the STORAGE SUBSYSTEM PORT ADAPTER, wherein the first communication device transmits a first signal [Figure 33, element 383, "SEND

RANDOM NUMBER"] from the first communication device to the second communication device, the second communication device being adapted for receiving said first signal [Figure 33, element 384: "RECEIVE RANDOM NUMBER"], generating a second signal [Figure 33, element 386: "ENCRYPT THE RANDOM NUMBER"] by modifying the received first signal [Figure 33, element 384: "RECEIVE RANDOM NUMBER"] according to the common secret [Figure 33, element 384: "HOST CONTROLLER'S KEY"], transmitting the second signal [Figure 33, elements 387 & 388: "SEND THE ENCRYPTION VALUE" & "RECEIVE THE ENCRYPTION VALUE," respectively] to the first communication device [Figure 33, "STORAGE SUBSYSTEM PORT ADAPTER"]; generates by the first communication device [Figure 33, "STORAGE SUBSYSTEM PORT ADAPTER"] a third signal [Figure 33, element 385: "ENCRYPT THE RANDOM NUMBER"] by modifying the first signal ["RANDOM NUMBER"] according to the common secret [Figure 33, element 384: "HOST CONTROLLER'S KEY"].

Appellant has interpreted the dotted-arrow-line between elements 381 and 382 as equating to Appellant's first signal. However, the Examiner has made it clear that the Examiner's position equates the first signal as equating to Figure 33, elements 383 & 384, wherein the elements recite "SEND RANDOM NUMBER" and "RECEIVE RANDOM NUMBER," respectively.

Accordingly, the Appellant has failed to address the rejections as made by the Examiner. Appellant's argument fails to comply with 37 CFR 1.111(b) which requires that the position taken by the Examiner be addressed. The position addressed by Appellant was never taken by the Examiner.

(B) Regarding the rejection of claim 1 under 103(a) in view of Lundkvist and Blumenau, Appellant argues (B1) "Blumenau, column 37, lines 46 – 47 and Fig. 33, element 381, clearly shows that the first signal sent is element 381 and that it is the HOST CONTROLLER that sends the request 381 in the first step of the process. (B2) Since both Appellant's claimed invention and the vehicle in Lundkvist identified by the Examiner as the first communication device (as we best understood the examiner's position) require that the first communication device sends the first signal, consistency requires that the HOST CONTROLLER in Blumenau be identified with the first communication device, because it is the HOST CONTROLLER that sends the first signal. Thus, the STORAGE SUBSYSTEM PORT ADAPTER cannot be identified as the first communication device. (B3) Since the HOST CONTROLLER (allegedly the first communication device according to the Office Action) in Blumenau does not generate a third signal by modifying the first signal according to the common secret, or compare the third signal with the received second signal to check if the second signal has been modified according to the common secret, thus Blumenau also fails to disclose the above claimed features."

In response to argument (B1), the Examiner finds this argument to be without merit as the Examiner never referred to Figure 33, element 381. The Examiner references Figure 33, element 383, wherein the STORAGE SUBSYSTEM PORT ADAPTER, e.g. the first device, of Blumenau transmits a first signal, e.g. "SEND RANDOM NUMBER."

The Examiner finds this remark to be entirely inconsistent with earlier correspondence. The Examiner has maintained that it is in Figure 33, element 383 where the first signal is transmitted from the STORAGE SUBSYSTEM PORT ADAPTER, e.g. the first device, to the

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HOST CONTROLLER, e.g., the second device. This is further demonstrated in the Examiner's second exhibit.

Therefore, Appellant's argument fails to comply with 37 CFR 1.111(b) which requires that the position taken by the Examiner be addressed. The position addressed by Appellant was never taken by the Examiner.

Turning to Appellant's claims, the claims do not expressly disclose that the transmission of the "first signal" need be an "initial" or "starting" signal as Appellant appears to be interpreting the phrase "first signal". Further review of Appellant's disclosure of the invention yields no explicit requirement that the "first signal" be the "initial" or "starting" signal. Turning to Appellant's disclosure of the invention, the "first signal" is recited as transmitting data from one communication device to another communication device (page 3), bit words (page 4) or a random number (page 7: "First device -> Second device: $R_B || \text{Text 1}$ wherein R_B is a random number). The Examiner has reasonably interpreted Appellant's first signal as comprising a random number which clearly corresponds to Figure 33 of Blumenau, elements 383 and 384 wherein the elements respectively state "SEND RANDOM NUMBER" and "RECEIVE RANDOM NUMBER."

Since the "first signal" of Appellant's claimed invention need not be an "initial" or "starting" signal, Figure 33, elements 383 & 384, "SEND RANDOM NUMBER" and "RECEIVE RANDOM NUMBER," are equated as Appellant's claimed "first signal."

In response to Appellant's argument that the references fail to show certain features of Appellant's invention, it is noted that the features upon which Appellant relies (i.e., the "first signal" being an initial or starting signal) are not recited in the rejected claims.

In response to argument (B2), the Examiner finds this argument exemplifies Appellant's misinterpretation of how the Examiner applies Figure 33 of Blumenau. Since Appellant has assumed the HOST CONTROLLER transmits the first signal, Appellant has switched the order of the devices in Figure 33 of Blumenau. However, the Examiner has maintained Figure 33, element 383 as originating the claimed "first signal," where the first signal is transmitted from the STORAGE SUBSYSTEM PORT ADAPTER, e.g. the first device, to the HOST CONTROLLER, e.g., the second device. The Examiner's use of Blumenau as applied to Appellant's claimed invention is exemplified in the second exhibit.

Appellant's argument fails to comply with 37 CFR 1.111(b) which requires that the position taken by the Examiner be addressed. The position addressed by Appellant was never taken by the Examiner.

In response to argument (B3), the Examiner finds this argument further demonstrates how Appellant has switched the first device and the second device as applied by Figure 33 of Blumenau. The Examiner finds this remark to be entirely inconsistent with earlier correspondence.

The Examiner turns to the following earlier correspondence as firmly and explicitly conveying to Appellant that the first communication device of Appellant equates to Blumenau's "STORAGE SUBSYSTEM PORT ADAPTER":

- The Non-final Office action dated 01 October 2008, page 3, clearly states "However, Blumenau teaches: (means for) generating by the first communication device [Fig 33, elt "STORAGE SUBSYSTEM PORT ADAPTER"] ..."

- The Final Office action dated 22 January 2009, page 6, clearly states, "However, Blumenau teaches: (means for) generating by the first communication device [Fig 33, elt "STORAGE SUBSYSTEM PORT ADAPTER"] ..."

The Examiner has maintained that it is in Figure 33, element 383 where the first signal is transmitted from the STORAGE SUBSYSTEM PORT ADAPTER, e.g. the first device, to the HOST CONTROLLER, e.g., the second device. This is further demonstrated in the Examiner's second exhibit.

The Examiner, in earlier and instant correspondence, asserts the STORAGE SUBSYSTEM PORT ADAPTER performs the steps of generating a third signal [Figure 33, element 385: "ENCRYPT THE RANDOM NUMBER"] by modifying the first signal [Figure 383, element 383: "SEND RANDOM NUMBER"] according to the common secret ["HOST CONTROLLER'S KEY"], or compare [Figure 33, element 389: "MATCH OF ENCRYPTION VALUES?"] the third signal [Figure 33, element 385: "ENCRYPT THE RANDOM NUMBER"] with the received second signal [Figure 33, elements 387 & 388: "SEND THE ENCRYPTION VALUE TO THE PORT ADAPTER" & "RECEIVE THE ENCRYPTION VALUE FROM THE HOST CONTROLLER," respectively] to check if the second signal [the encrypted random number] has been modified [encrypted] according to the common secret [Figure 33, element 389: "MATCH OF ENCRYPTION VALUES" followed by "YES" or "NO"].

(C) Regarding the rejection of claim 1 under 103(a) in view of Lundkvist and Blumenau, Appellant argues (C1) "that combining Lundkvist and Blumenau would change the principle of operation of Lundkvist and Blumenau. Lundkvist discloses that it is the first communication system that sends the first signal X in order to perform the distance measurement (Lundkvist,

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Fig. 2 and page 8, lines 24-26). (C2) As discussed above, the Office Action alleged that the STORAGE SUBSYSTEM PROT ADAPTER in Blumenau is the first communication device.”

(C3) “Appellant submits that the roles of the first and second communication devices are very different and are not interchangeable, because the first communication device is the device initiates the first signal transmission and the second communication is device is the device that responds to the first signal transmission.”

In response to argument (C1), the Examiner finds the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); See also *In re Sneed*, 710 F.2d 1544, 1550, 218 USPQ 385, 389 (Fed. Cir. 1983).

In combining Lundkvist and Blumenau, equating Figure 33, element 383 as the step wherein the first signal originates in no way negatives or diminishes the teachings Blumenau. In this case, Blumenau teaches Figure 33 as a challenge-response protocol between two devices (column 37, lines 27-28) and results in authenticating the requesting device (column 38, lines 10-12). The principles of operation of both Lundkvist and Blumenau are sustained as both Lundkvist and Blumenau provide a challenge-response protocol between two devices and results in authenticating the requesting device. Combining Lundkvist and Blumenau would have been obvious to one of ordinary skill in the art at the time of conception of the invention as both references delve into authenticating two devices wherein both devices confirm

possession of a common encryption algorithm and common encryption key. Both references are within the same realm of endeavor as Appellant's, authenticating two devices. Thirdly, while Lundkvist teaches a method for authenticating two devices, Blumenau provides a different method of authenticating two devices and it would involve routine skill in the art to simply substitute one method of authentication for another yielding predictable results; those results being the authentication of two devices wherein both devices confirm possession of a common encryption algorithm and common encryption key (*KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 127 S. Ct. 1727, 82 USPQ2d 1385, 1397 (2007)).

Appellant's argument fails to comply with 37 CFR 1.111(b) which requires that the position taken by the Examiner be addressed. The position addressed by Appellant was never taken by the Examiner.

Since Appellant has misinterpreted and mischaracterized how the Examiner has applied Figure 33 of Blumenau, the Examiner has in no way discarded the first signal nor changed the fundamental design of the operations of Blumenau. The Examiner has in no way reconstructed nor in any manner redesigned elements in Lundkvist nor Blumenau. The Examiner has therefore sustained the basic principles of Lundkvist and Blumenau.

In response to arguments (C2) and (C3), this argument is addressed in the response to argument (B1). Appellant's claims do not expressly disclose, explicitly nor implicitly, that the transmission of the "first signal" need be an "initial" or "starting" signal. Further review of Appellant's disclosure of the invention yields no explicit requirement that the "first signal" be the "initial" or "starting" signal. Since the claimed "first signal" need not be the "initial" or

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"starting" signal, Figure 33, element 383 (SEND RANDOM NUMBER), can be interpreted as the "first signal."

Turning to Appellant's claims, the claims do not expressly disclose that the transmission of the "first signal" need be an "initial" or "starting" signal as Appellant appears to be interpreting the phrase "first signal". Further review of Appellant's disclosure of the invention yields no explicit requirement that the "first signal" be the "initial" or "starting" signal. Turning to Appellant's disclosure of the invention, the "first signal" is recited as transmitting data from one communication device to another communication device (page 3), bit words (page 4) or a random number (page 7: "First device -> Second device: R_B ||Text 1 wherein R_B is a random number). The Examiner has reasonably interpreted Appellant's first signal as comprising a random number which clearly corresponds to Figure 33 of Blumenau, elements 383 and 384 wherein the elements respectively state "SEND RANDOM NUMBER" and "RECEIVE RANDOM NUMBER."

Since the "first signal" of Appellant's claimed invention need not be an "initial" or "starting" signal, Figure 33, elements 383 & 384, "SEND RANDOM NUMBER" and "RECEIVE RANDOM NUMBER," are equated as Appellant's claimed "first signal."

In reviewing the Appellant's disclosure, there is a question as to what a "signal" represents and if data must be transmitted as part of Appellant's "signal." On page 8, Appellant states "The first device 301 receives the modified signal via a receiver 317 and in 319 the received modified signal is compared to a signal, which has been **modified locally**. The **local modification** is performed in 3211 by using the signal transmitted to the second device in 309 and then modifying the signal using the locally stored secret ..." Ergo,

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Appellant's "signal" may be internal to a device and need not be interpreted as non-physical phenomenon, such as propagated signals.

The Examiner emphasizes the language directed to locally modifying a signal. Upon reviewing the corresponding drawing, Figure 3, the Examiner need not limit the interpretation of "signal" to a wireless environment, e.g. Bluetooth, but also a transmission internal to a device. The STORAGE SUBSYSTEM PORT ADAPTER does this very same series of steps by sending the random number [Figure 33, element 383], encrypting the random number [Figure 33, element 385], receiving the second signal from the HOST CONTROLLER or second device [Figure 33, element 388] and comparing the encrypted random number and the received encrypted number [Figure 33, element 389].

Appellant states the arguments for claim 1 apply to claims 8 & 11. Likewise, the Examiner's responses applied to claim 1 also apply to claims 8 & 11.

Since Appellant makes no specific arguments against claims 5-7, 9, 10 and 13, the Examiner sustains the rejections of those claims as stated in the Final Office Action dated 22 January 2009.

(D) Regarding the rejection of claim 6 under 103(a) in view of Lundkvist and Blumenau, Appellant argues (D1) "The $E_SVAR = f(O_RND)$ in Lundkvist, page 8, lines 27-28, is just a message part of the $f(x)$ for unlocking the vehicle. However, such message part is not a compliance rule."

In response to argument (D1), the Examiner interprets Lundkvist's validation of the equation $E_SVAR = f(O_RND)$ as a requirement for unlocking a vehicle; Lundkvist's one requirement that the equation be met before unlocking a vehicle falls into the category of a "compliance rule." Further, since a set may contain merely one item, the equation satisfies the condition of "a set."

As can be seen from the above discussion, Appellant's attempts at overcoming the *prima facie* case of obviousness set forth by the examiner were based on attacking positions never taken by the examiner. This fails to comply with 37 CFR 1.111(b) which requires that Appellant shows error in the actual position taken by the examiner. As such, the rejections as set forth in the Final Office action should be sustained.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted:

/DARREN SCHWARTZ/

Examiner, Art Unit 2435

Conferees:

/Ponnoreay Pich/

Primary Examiner, Art Unit 2435

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